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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,949	06/15/2001	Lani William Brewer	GAD-019	7571

32294 7590 03/24/2004

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EXAMINER

ABELSON, RONALD B

ART UNIT	PAPER NUMBER
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2666

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/881,949

Applicant(s)

BREWER ET AL.

Examiner

Ronald Abelson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-19 and 21-43 is/are allowed.
- 6) ☒ Claim(s) 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 October 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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**Claim Rejections - 35 USC § 102**

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 20 is rejected under 35 U.S.C. 102(e) as being anticipated by Hu (US 6,535,518).

Regarding claim 20, Hu teaches a switch (fig. 8 box 101) for a packet switched or frame switched network, said switch having conventional routing circuitry, said network having client devices (fig. 8 box 130) and storage devices (fig. 8 box 110) and a storage manager (fig. 8 box 120) coupled to said switch.

The switch comprises one or more ports which are structured to operate to receive redirection commands from a storage manager (col. 8 lines 4-8) containing old address data and new address data and to store the old address data and new address data contained therein in a shared look up table (col. 8

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lines 33-35). The examiner equates the new address of the applicant with the address of the network interface of the reference and the old address of the applicant with the server of the reference. The examiner maintains that the old address and new address data are found in the server's redirection command, because the switch now routes the subsequent packets to the network interface directly.

Regarding the limitation but otherwise to function as conventional switch ports (fig. 8 box 101). The device is labeled "switching element".

The switch shared redirection interface circuitry coupled to each of said ports and said shared look up table (col. 8 line 34) and coupled to said conventional routing circuitry, said shared redirection interface circuitry structured to compare packet or frame type information included in a header of each packet or frame arriving from a port coupled to a client device or a storage device to determine if the packet or frame is of a type which is to be relabeled and redirected (col. 8 lines 33-35), and, if the packet or frame is of a type to be relabeled and redirected, then comparing the old address data therein to the old address data in said shared look up table, and if there is a match to any of the old address data entries in said look up table (if a match is found, col. 8 lines 33-37), substituting

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the corresponding new address data from said look up table, and forwarding said packet or frame to said conventional routing circuitry for routing (col. 8 lines 56-60).

***Allowable Subject Matter***

3. Claims 1-19 and 21-43 are allowed.

4. The following is a statement of reasons for the indication of allowable subject matter.

Regarding claims 1, 27, 28, 34 - 43, Hu teaches a method and apparatus for a switch (fig. 8 box 101) for a packet switched or frame switched network, said switch having conventional routing circuitry, said network having client devices (fig. 8 box 130) and storage devices (fig. 8 box 110) and a storage manager (fig. 8 box 120) that decides to redirect read and/or write transactions on any basis so as to virtualize said storage devices (col. 9 lines 4-8).

The switch comprising one or more ports which are structured to operate to receive one or more redirection commands (sets up CU and storage control to bypass server, col. 9 lines 4-8) from said storage manager or another switch in said network coupled to said storage manager containing old address

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data and new address data. The examiner equates the new address of the applicant with the address of the network interface of the reference and the old address of the applicant with the server of the reference. The examiner maintains that the old address and new address data are found in the server's redirection command, because the switch now routes the subsequent packets to the network interface directly.

The ports containing circuitry to store said old address data and new address data in one or more look up tables (col. 7 lines 29-31)

The switch contains circuitry functioning to compare packet or frame type information included in a header of at least some packets or frames arriving at a port coupled to a client device or a storage device to determine if the packet or frame is of a type which is to be relabeled and redirected (col. 8 lines 33-35), and, if the packet or frame is of a type to be relabeled and redirected (if a match is found, col. 8 lines 35-37), comparing at least some of the old address data therein to the old address data entries for one or more redirection commands stored in one or more of said look up tables, and if there is a match to any of the old address data of said one or more redirection commands, relabelling said packet or frame by substituting the corresponding new address data from said

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matching redirection command(s) for said old address data in said packet or frame header, said new address data causing said relabeled packet or frame to be routed (forwarded to the router, col. 8 lines 35-37) so as to bypass said storage manager (col. 8 lines 35-39).

However, nothing in the prior art of reference teaches or suggests the relabeled packet is made to look like it came from said storage manager. Applicant provides support (pg. 6 lines 21-24). Applicant states, "This allows the storage device and client device software and hardware to remain structured as it has been in the past and not require any modifications". Note, in claim 39 lines 13-15, the applicant specifically states the relabelled headers have the Port\_ID of the storage device as the source address.

Regarding claims 6, 21, 22, 26, 27, Hu teaches a method and apparatus for a virtualizing storage manager (fig. 8 box 120) for a packet switched or frame switched network, said network having client devices (fig. 8 box 130) and storage devices (fig. 8 box 110) and a switch (fig. 8 box 101) having any structure capable of redirecting read and/or write transactions based upon commands from said storage manager (col. 9 lines 4-8) so as to virtualize said storage devices,

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The storage manager comprises conventional storage manager circuitry to carry out conventional processing of read and/or write transactions that are not redirected (col. 9 lines 8-9); and a computer programmed to or logic circuitry structured to decide whether to redirect packets or frames of a read or write transaction based upon any redirection criterion (new requests, col. 9 lines 8-9),

However, nothing in the prior art teaches or suggests the storage manager is programmed or structured to generate and send at least one said redirection command to a switch in said network for every read or write transaction to be redirected. In contrast, Hu explicitly teaches a single redirection command for a given type of request (once the server decides the access is legitimate, it sets up ... , col. 9 lines 4-8).

### **Conclusion**

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Abelson whose telephone number is (703) 306-5622. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be



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reached on (703) 308-5463. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*RA*  
Ronald Abelson  
Examiner  
Art Unit 2666

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3/10/04

*Seema S. Rao*  
**SEEMA S. RAO** 3/19/04  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2800**